Application No. 09/873,500

Docket No.: NY-QMET 201-US

REMARKS.

Status of the Claims

Claims 1-6, 8-10, 12-15, 17-23, 25-27 and 29-45 are currently pending.

Claims 1-6, 8-10, 12-15, 17-23, 25-27 and 29-45 stand rejected.

In light of the remarks to follow, reconsideration and allowance of this application are requested.

Claim Rejections

Claims 1-6, 8-23, 25-27, 29-41 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ware et al., *Dynamic Health Assessments: The Search for More Practical and More Precise Outcomes Measures*, THE QUALITY OF LIFE NEWSLETTER, JANUARY 1999-APRIL 1999 (Ware) in view of U.S. Patent No. 5,059,127 (Lewis). Claims 42-45 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Ware, in view of U.S. Patent No. 6,067,523 (Bair). Applicant respectfully traverses these rejections.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must not be based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143. Here, a *prima facie* case of obviousness has not been shown because none of the three basic criteria is met. Specifically, neither Ware, Lewis, nor Bair individually or in combination teach or suggest *all* the limitations of the claims. Specifically, independent claims 1, 18, 35, and 39 each require "varying a threshold as a function of said estimated score." The cited art whether taken alone or in combination does not teach or suggest this limitation.

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The Examiner acknowledges that Ware is deficient because it does not teach "varying a threshold as a function of said estimated score; and dynamically modifying said test based on an answer provided to an immediately prior question if said estimated confidence level is outside a said threshold" (August 3, 2007 Office Action at 3). To cure this deficiency, the Examiner turns to Lewis. Applicants traverse this rejection because contrary to the Examiner's assertion, Lewis does not teach or suggest "varying a threshold *as a function of said estimated score*" as required by all the claims of the present invention (emphasis added). While Lewis teaches "assigning variable threshold variables to particular testlets," as cited by the Examiner, (August 3, 2007 Office Action at 3), Lewis does not teach or suggest varying a threshold "*as a function of said estimated score*" as required by the claims. Lewis teaches assigning variable threshold variables generally in the context of preparing a *random* testlet selection (*see, e.g.,* Lewis, col. 9, lns. 6-9). This is diametrically opposed to "varying a threshold *as a function of said estimated score*" which is based on and results in a dynamic method akin to an adaptive testing method. Nowhere do Ware and Lewis solely or in combination teach "varying a threshold *as a function of said estimated score*" as required by all the claims of the present invention. Moreover, "[t]o imbue one of ordinary skill in the art with knowledge of the present invention, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim of the insidious effect of hindsight syndrome, wherein that which only the inventor taught is used against the teacher." *W.L. Gore & Assoc. v. Garlock, Inc.,* 721 F.2d 1540, 1553 (Fed. Cir. 1983).

Lewis actually teaches away from an *adaptive* testing method by disparaging such a method as complicated and not easily implemented. (*see e.g.,* Lewis, col. 8 ln. 61 – col. 9, ln. 13). For example, Lewis states that "the primary reasons for selecting *random* rather than *adaptive* [include] (i) computational efficiency: . . (ii) simplicity . . . ; [and] (iii) ease of implementation"; Lewis also states that "the additional complication of an adaptive testlet selection mechanism is . . . *not particularly desirable.*" (*see e.g.,* Lewis, col. 8 ln. 61 – col. 9, ln. 13). As such Lewis actually teaches away from the testing method of the claims of the present invention which require varying a threshold "as a function of said estimated testscore." The prior must to be judged based on a full and fair consideration of what that art

teaches, not by using Applicants invention as a blueprint for gathering various bits and modifying the pieces in an attempt to reconstruct Applicant's invention. The Examiner cannot simply change the principle of the operation of the reference or render the reference inoperable for its intended purpose to render the claims unpatentable.

Moreover, assuming *arguendo* that Lewis and the present invention similarly are directed to providing a testing system with the motivation of "balancing the goals of classification accuracy and test efficiency" as implied by the Examiner (August 3, 2007 Office Action at 3), Lewis' solution for achieving such a result is entirely opposite to that proposed by the present invention. Lewis is directed to "mastery testing" which is "used in educational and certification contexts to decide, on the basis of test performance, whether or not an individual has attained a specified level of knowledge, or mastery, of a given subject." (Lewis, ABSTRACT, col. 1, lns. 19-23). As such, in order to achieve the goal of balancing the classification accuracy and test efficiency, Lewis describes randomly selecting a testlet (*see, e.g.,* Lewis, col. 8, lns. 61-62) wherein the method may randomly assign threshold variables to the testlets. (*see, e.g.,* Lewis, col. 9, lns. 6-9). The present invention, on the other hand, is specifically directed to *dynamically* changing the content of the selected testlet based on the response (answers) to the questions by the test taker, while the test is occurring. As such, the present invention provides flexibility in the administration of a health related test by mimicking the evaluation process performed by a professional health care provider. Even if the testlet is wrongly selected, the present invention allows for the system to adapt during the administration of the testlet, whereas none of the cited art is even remotely concerned with such a problem. At best, even if the references were combined as suggested by the Examiner, the combination would merely teach how to select the right test prior to the actual administration of the selected testlet. The present invention, on the other hand, addresses the problem of dynamically altering a test concurrently being given in the event that it is determined that the testlet being given is wrong. Specifically, the claims of the present invention provide an adaptive testing method which include the novel steps of "varying a threshold *as a function of said estimated score*" and "dynamically modifying said test based on an answer provided to an immediately prior question if said estimated

confidence level is outside a said threshold." As such Lewis teaches away from the testing method provided by the present invention.

Furthermore, the Examiner rejects dependent claims 42-45 as being unpatentable over Ware in view of Bair. (August 3, 2007 Office Action at 8). Bair, however, fails to teach or suggest "varying a threshold *as a function of said estimated score*" and "dynamically modifying said test based on an answer provided to an immediately prior question if said estimated confidence level is outside a said threshold" as required by all the claims of the present invention. Bair merely describes generating a test from a master question table and skipping certain related questions based on the answer to the first related questions. (see, e.g., Bair col. 11, ln. 45 – col. 13, ln. 12). There is no disclosure in Bair related to use of a threshold as a function of the estimated score during the administration of a test. Nowhere do Ware and Bair, solely or in combination teach "varying a threshold *as a function of said estimated score*" and "dynamically modifying said test based on an answer provided to an immediately prior question if said estimated confidence level is outside a said threshold" as required by all the claims of the present invention.

The Examiner has also failed to establish a prima facie case of obviousness because there is no motivation to combine these references. With respect to the combination of Ware and Lewis, as explained above, Lewis is directed to a mastery system that teaches away from an adaptive test method wherein the threshold value is based on a specific element. Moreover, neither Ware, Lewis, or Bair suggest the desirability of the claimed invention because it is undeniable that neither Ware, Lewis nor Bair is even remotely concerned with the problem of providing flexibility in the administration of a health test by mimicking the evaluation process performed by a professional health care provider. Typically, the health care provider administering the test may inquire more deeply into certain issues (related to specific domains) raised by the patient's answer if the patient scored poorly, whereas additional questions related to domains which are of reduced interest would not be asked. For example, if a person has difficulty walking up the stairs due to leg pain without shortness of breath or chest pain, a health care provider will want to gather more information regarding the leg pain. This could be done by more focused questions directed to the history of the leg

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pain, e.g., how long have you had the pain, how severe is the pain on a scale of 1-10, when does it hurt the most, and by ordering further tests like an x-ray or MRI. The health care provider will not inquire further regarding possible issues related to shortness of breath or chest pain, because it was found out that this is not the reason that the patient is having difficulty walking up the stairs.

The present invention attempts to provide such flexibility by varying the threshold as a function of the estimated score during the test. In particular, during the administration of the test, the threshold will be raised for a domain of particular interest and will be lowered for a domain of lesser interest. In so doing, the present invention streamlines the process by not requiring an unnecessary amount of additional questions for domains which are of reduced interest, while requiring an increased number of questions related to a domain of particular interest. This aspect of the present invention can raise the statistical accuracy and focus of the test, while at the same time reducing the burden on the test subject. It is undeniable that neither Ware nor Bair individually or in combination therewith are even remotely concerned with providing such flexibility. Since Appellants have recognized a problem not addressed by the cited prior art and solved that problem in a manner not suggested by cited prior art, the basis for patentability of the claims is established. See *In re Wright*, 6 U.S.P.Q. 2d, 1959, 1961-1962 (Fed. Cir. 1988). There, the CAFC relied upon previous decisions requiring a consideration of the problem facing the inventor in reversing the Examiner's rejection. "The problem solved by the invention is always relevant". *Id.* at 1962. See also, *In re Rinehart*, 189 U.S.P.Q. 143, 149 (CCPA 1967), which stated that the particular problem facing the inventor must be considered in determining obviousness.

Therefore, Ware, Lewis, and/or Bair independently or in combination do not teach or suggest "varying a threshold *as a function of said estimated score*" and "dynamically modifying said test based on an answer provided to an immediately prior question if said estimated confidence level is outside a said threshold" as required by independent claims 1, 18, 35, and 39.

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Moreover, having distinguished the independent claims above over the combination of Ware, Lewis, or Bair, applicants submit that dependent claims 2-17, 19-24, and 36-38, 40-45 are patentable for at least the same reasons discussed above. (Applicant reserves the right to separately address the patentability of each dependent claim in the future, if necessary.) Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness because Ware, Lewis and Bair, independently or in combination fail to teach or suggest all the claim limitations of the claims of the present invention. Applicant respectfully request that the rejection of claims 1-6, 8-10, 12-15, 17-23, 25-27, and 29-45 be withdrawn.

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